

News From the Centers for Disease Control and Prevention

e-Cigarette Use Grows Among Youths
Nearly 2 million middle and high school students have smoked electronic cigarettes, commonly known as e-cigarettes, raising serious concerns about the potential for harm to adolescent brain development.

Data from the National Youth Tobacco Survey show that during 2011 to 2012, the percentage of students in grades 6 to 12 who ever had smoked e-cigarettes increased to 6.8% from 3.3%. The percentage who currently used them increased to 2.1% from 1.1%, and current use of both electronic and conventional cigarettes increased to 1.6% from 0.8%. Among students who ever had smoked an e-cigarette, 9.3% said they never had smoked conventional cigarettes; among the students currently using e-cigarettes, 76.3% said they currently smoked conventional cigarettes, too. In 2012, 2.7% of middle school students and 10% of high school students had ever tried e-cigarettes.

Battery-powered electronic cigarettes typically contain nicotine; a component such as propylene glycol or glycerol to produce the aerosol; and flavorings such as mint, fruit, or chocolate. Potentially harmful contents have been found in some brands, including irritants, genotoxins, and animal carcinogens (<http://1.usa.gov/1aaeu4N>).

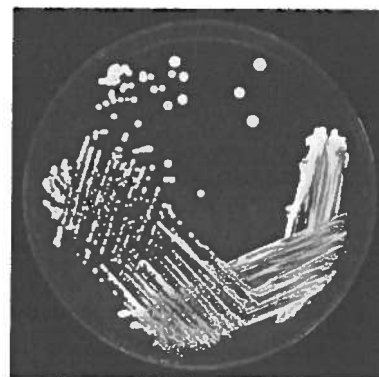
Legionella Poses Major Challenge in Waterborne Disease Outbreaks

Legionella and *Campylobacter* bacteria have been implicated in nearly three-fourths of recent disease outbreaks linked with drinking water.

Data from the Waterborne Disease and Outbreak Surveillance System show that during 2009 to 2010, public health officials from 17 states reported 33 drinking water outbreaks. As a result, 1040 people became ill, 85 were hospitalized, and 9 died. *Legionella* was implicated in 19 outbreaks, 72 illnesses, 58 hospitalizations, and 8 deaths. *Campylobacter* was the sole microbe implicated in 4 outbreaks that caused 812 illnesses and 17 hospitalizations, as well as in 2 outbreaks with more than 1 organism involved that resulted in 17 illnesses.

The data also showed that while *Legionella* caused about 58% of the outbreaks, other types of bacteria were involved in about 82% of illnesses. About three-fourths of outbreaks and associated illnesses were linked with community water systems. About half of the outbreaks and nearly all illnesses were associated with systems that used ground water sources. Acute gastrointestinal illness was reported in about 93% of the outbreaks.

In addition to the drinking water outbreaks, 12 disease outbreaks that were linked with nonrecreational water use resulted in 234 illnesses, 51 hospitalizations, and 6 deaths. *Legionella* accounted for 58% of these outbreaks, 42% of the illnesses, 96% of the hospitalizations, and all the deaths.



Despite vast improvements in US public drinking water supplies during the last century, the Centers for Disease Control and Prevention noted that emerging and ongoing public health challenges remain. Among the most important is controlling *Legionella*, the most common cause of disease outbreaks linked with drinking and nonrecreational water. *Legionella* caused 14 of the 15 deaths reported during 2009 to 2010. *Legionella* outbreaks are particularly difficult to prevent and control because the organism multiplies in plumbing systems within buildings, which often fall outside of regulatory control.

Also, the large proportion of outbreaks linked with untreated well water points to the need for stepped-up efforts to monitor ground water sources and protect them from contamination. Full implementation of the Ground Water Rule, a federal regulation to increase protection against microbial pathogens in public water systems that use ground water, could help reduce these outbreaks.

Problems in water distribution systems also need attention. Outbreaks have occurred in systems that supplied unchlorinated water; in other outbreaks, potable water mixed with nonpotable because of cross-connections in water pipes (<http://1.usa.gov/16JxGc>).

